

REMARKS**1. Amendment of Claims.**

Claims 21, 23, 25, 26, and 32, have been amended. Claims 22 and 23 have been deleted in as much as this subject matter has been incorporated into claim 21. Claims 40 and 41 have also been deleted. Claims 21, 23, 25-37 will be pending after entry of the instant amendment.

Support for the amendments to claim 21 may be found in Applicants' Specification, especially on page 2, lines 26-28, page 8, lines 5-9, and from page 4, line 18, to page 7, line 7. Support for the amendment relating to the polydispersity range of independent claim 21 may be found on page 9, lines 3-5

The Amendments to claims 23, 24, 26, and 32 address typographical errors and/or dependency matters.

New claims 42 and 43 incorporate the subject matter of dependent claims 23, 25, and 26.

No new matter has been added with any of the amendments or new claims.

Entry of these after final amendments is respectfully requested on the grounds that they place the application in a better condition for allowance and/or appeal. The Undersigned notes that the prior amendments were made in good faith and that the instant amendments were not deemed necessary until a review of the PTO's comments in the Office Action of December 1, 2004. Accordingly, entry of the instant amendments is respectfully requested per 37 C.F.R. 1.115.

2. Rejection of claims 21-37, 40 and 41 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21-37 have been rejected as indefinite.

In particular, independent claim 21 has been rejected for the use of the phrase "positionally isomeric".

The basis of rejection is understood to be as follows:

"The language, "positionally isomeric", when recited without specific reference to the actual isomer, renders the claims indefinite, because it is unclear what meaning or purpose is conveyed by the language. How is "positionally isomeric diethyloctanediol" different from diethyloctanediol? Applicants' response has been considered; however, the position is maintained that it is unclear if the language "positionally isomeric diethyloctanediol" without reference to locations of the isomeric features defines a different compound from diethyloctanediol. It appears from applicants' response that the hydroxyl groups are not intended to be attached to the ethyl substituents; however, it is unclear if the argued language precludes such an interpretation.

(Office Action of 12/1/04, page 1, section 1.)

Claim 21 is also rejected for use of the phrase "a reaction product comprising two or more repeating units derived from a positionally isomeric diethyloctanediol monomer". It is the PTO's position that use of this phrase renders the claims indefinite, because it is unclear if the repeating units are derived from the monomer or if the reaction product simply comprises two or more repeating units and the reaction product is derived from the monomer.

Whether a claim is invalid under the second paragraph of Section 112 requires a determination of whether those skilled in the art would understand what is claimed when the claim is read in light of the specification. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 802 F.2d 1565, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986).

Applicants respectfully submit that the claims pending after the Response of September 17, 2004 met this standard. However, independent claim 21 has now been amended in an effort to address the PTO's concerns. Reconsideration and removal of the rejection of amended independent claim 21 is respectfully requested.

With respect to the PTO's comments as to the use of the phrase "a reaction product comprising two or more repeating units derived from a positionally isomeric diethyloctanediol monomer", Applicants respectfully submit that one of skill in the art reading the text on page 2, lines 26-28, and page 8, lines 5-9, would understand that this phrase refers to monomer units derived from the particularly identified monomer.

Accordingly, reconsideration and removal of the rejection as to amended independent claim 21 is respectfully requested. Similarly, reconsideration and removal of the rejection is also requested as to dependent claims 23, 25, and 26-37, in as much

as these dependent claims incorporate the limitations of amended independent claim 21.

3. **Rejection of claims 21-37, 40 and 41 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.**

It is the PTO's position that the claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In particular, support has not been found for claims that the "repeating units" are derived from the isomeric diethyloctanediol monomer. At page 4 of the specification, it is merely disclosed that the oligomer or polymer contains repeating units.

In response, it is noted that claim 21 has been amended to refer to 'monomer units'. Support for this amendment may be found on page 2, lines 26-28 and page 8, lines 5-9. Claims 40 and 41 have been deleted.

Accordingly, reconsideration and removal of the rejection as to amended independent claim 21 is respectfully requested. Similarly, reconsideration and removal of the rejection is also requested as to dependent claims 23, 25, and 26-37, in as much as these dependent claims incorporate the limitations of amended independent claim 21.

4. **Rejection of claims 21, 22, 24, 27-31, 33-37, 40 and 41 under 35 U.S.C. §102(a) as being anticipated by Ott et al., WO 00/15725, hereafter "Ott" or "725".**

The Examiner states:

[t]he reference discloses coating compositions wherein diethyloctanediol is disclosed as a reactant. See page 15, line 10. Though the reference fails to disclose the particular isomer, the claims are considered to be met, because the claims encompass all position isomers. Applicants' argument that the reference fails to disclose at least two repeating units derived from the monomer is not well taken. The position is taken that the use of a reactant to yield a polymer will inherently satisfy applicants' claim language,

because the polymer by definition comprises repeating units derived from the monomeric reactants.

(Office Action of 12/1/04, pages 3 & 4, section 4.)

Applicants greatly appreciate the PTO's detailed response but respectfully submit that Ott fails to anticipate the invention of amended independent claim 21. In particular, Ott fails to disclose the use of the particularly required diethyloctane diol monomers required by the invention of Applicants' amended independent claim 21.

Regardless, the Undersigned expects that Applicants' foreign priority date renders the instant rejection moot. As previously noted, the Undersigned is in the process of obtaining a translation of the certified priority document as requested by the PTO per MPEP 201.15 and 37 CFR 1.55 (a) (4) The requested translation and statement indicating that the translation is accurate will be filed shortly. It is expected that upon the filing of the translation, Applicants will be entitled to rely upon the priority date to overcome the cited reference.

5. **Rejection of claims 21-37, 40 and 41 under 35 U.S.C. §102(b), as being anticipated by Kratz et al., DE 19826715, hereafter "Kratz" or "715".**

The Examiner states that:

[I]he reference discloses coating compositions derived from 2,4-diethyloctane-1,5-diol. See abstract. Despite applicants' arguments, the abstract clearly discloses the curing of a polymerizable composition comprising the compound derived from 2,4-diethyloctane-1,5-diol, and the position is taken that the resulting polymer satisfies the "repeating unit" limitation. Additionally, it remains unclear with respect to exactly what constitutes applicants' "repeating units". The limitation of claims 40 and 41 is satisfied by any repeating units, including units derived from other than diethyloctanediol.

(Office Action of 12/1/04, page 4, section 6.)

Applicants must respectfully disagree with the basis of rejection. In particular, it is respectfully submitted that the invention of amended claim 21 is not disclosed by the English abstract of the cited reference.

To constitute anticipation, all material elements of a claim must be found in one prior art source. *In re Marshall*, 198 U.S.P.Q. 344 (C.C.P.A. 1978). It is respectfully submitted that DE '715 fails to meet this standard.

For example, the English abstract of the cited reference indicates that the claimed reactive thinner results from the reaction of three components, i.e., 2,4-diethyloctane-1,5-diol or its derivatives; ethylene oxide or propylene oxide; and a reactive compound having up to 30 carbon atoms and an ethylenically unsaturated polymerizable group. The Examples on pages 4 and 5 of the German language patent DE 198 26 715 A1 appear to indicate that the disclosed reactive thinner is 2,4-diethyloktandiol-1,5-diacrylat (DEODDA). The individual molecules of the reactive thinner thus appear to contain only one monomer unit resulting from a positional isomer of diethyloctanediol. Compounds containing such a structure are outside the scope of Applicants' claimed invention.

Thus, DE '715 fails to anticipate the invention of Applicants' amended independent claim 21 because it appears that the claimed reactive thinner of DE '715 lacks molecules containing two or more monomer units derived from a positionally isomeric diethyloctanediol monomer.

Reconsideration and removal of the anticipation rejection is respectfully requested in as much as the cited reference fails to disclose a required element of the claimed invention of amended independent claim 21. Similarly, reconsideration and removal of the rejection is also requested as to dependent claims 23, 25, and 26-37, in as much as these dependent claims incorporate all of the limitations of amended independent claim 21.

6. Rejection of claims 21, 22, 24, 27-31, 40, and 41 under 35 U.S.C. §102(b), as being anticipated by GB 778,924, hereafter "924".

Claims 21, 22, 24, and 27-31 have been rejected on the grounds that GB '924 discloses polymeric compounds produced from 3,6-diethyl-1,8-octanediol. It is the position of the PTO that:

[t]he reference discloses polymeric compounds produced from 3,6-diethyl-1,8-octanediol. See page 4, lines 55 and 75-85. ...Furthermore, the position is taken in view of a polymer's definition requiring repeating units

that the disclosed polymers inherently satisfy the argued "repeating unit" language. Lastly, given the broadly claimed polydispersity range, the position is taken that the disclosed polymers inherently satisfy this limitation.

(Office Action of 12/1/04, pages 4 & 5, section 7.)

Applicants appreciate the detailed basis of rejection but must respectfully disagree.

A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference. *In re Paulsen*, 31 U.S.P.Q.2d 1671 (Fed Cir. 1994).

In this case, the invention of amended independent claim 21 requires a reaction product having a particularly required molecular weight polydispersity Mw/Mn, i.e., of from 1.2 to 15.

GB '924 is silent as to the need to have a specific reaction product having the particularly required polydispersity of the reaction product of Applicants' amended independent claim 21.

In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461 (Bd. Pat. App. & Int'l 1990). An element is inherently present when it is not specifically found in the prior device but is always present or flows naturally from what is taught there. *Levi Strauss & Co. v. Golden Trade*, 1995 WL710822*17 (S.D. N.Y. 1995).

Polydispersity refers to the distribution of the molecular mass of polymers or colloidal particles. Those of skill in the art appreciate that polydispersity depends on a variety of factors, such as preparation and fractionation. Indeed, a review of the '924 reference indicates that it teaches the use of 'glycol products' and that such 'products' include multiple fractions. See '924, page 4, line 74, and lines 125-130 and page 5, lines 29-34, lines 74-78. Thus, it does not appear that a particular reaction product having Applicants' particularly required polydispersity would necessarily result from or always be present in materials of the '924 reference. As a result, the '924 reference

fails to inherently disclose the reaction product of Applicants' amended independent claim 21 having a particularly required polydispersity value.

Applicants also note that new claims 42 and 43 are novel with regard to the '924 reference since independent claim 42 requires the use of one of two particular glycols that are neither disclosed nor inherently flow from the formula on page 1.

Reconsideration and removal of the anticipation rejection is respectfully requested in as much as the cited reference fails to disclose a required element of the claimed invention of amended independent claim 21. Similarly, reconsideration and removal of the rejection is also requested as to dependent claims 23, 25, and 26-37, in as much as these dependent claims incorporate all of the limitations of amended independent claim 21.

7. Rejection of claims 21-37, 40 and 41 under 35 U.S.C. §102(a), as being anticipated by Bartol et al., EP 940459, hereafter "Bartol" or "'459".

The Examiner states:

[t]he reference discloses coating and adhesive compositions derived from various diethyloctanediois, including 2,4-diethyloctane-1,5-diol. See page 2 and claims. ...

(Office Action of 12/1/04, page 5, section 8.)

Applicants appreciate the detailed basis of rejection but must respectfully disagree.

A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference. *In re Paulsen*, 31 U.S.P.Q.2d 1671 (Fed Cir. 1994).

In this case, the invention of amended independent claim 21 requires a reaction product having a particularly required molecular weight polydispersity Mw/Mn, i.e., of from 1.2 to 15.

The '459 reference appears to be silent as to the need to have a specific reaction product having the particularly required polydispersity of the reaction product of Applicants' amended independent claim 21. The PTO has failed to provide any

indication as to how the '459 application satisfies this element of Applicants' claimed invention.

For the sake of argument, it is assumed that the PTO may argue that this aspect of Applicants' claimed invention is inherently disclosed.

However, in relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461 (Bd. Pat. App. & Int'l 1990).

This standard does not appear to have been met with the instant rejection based on the '459 reference.

Regardless, the Undersigned expects that Applicants' foreign priority date renders the instant rejection moot. As previously noted, the Undersigned is in the process of obtaining a translation of the certified priority document as requested by the PTO per MPEP 201.15 and 37 CFR 1.55 (a) (4) The requested translation and statement indicating that the translation is accurate will be filed shortly. It is expected that upon the filing of the translation, Applicants will be entitled to rely upon the priority date to overcome the cited reference.

8. Rejection of claims 21-37, 40 and 41 under 35 U.S.C. §103(a) as being unpatentable over Ott et al., WO 00/15725, hereafter "Ott" or "725"; Bartol et al., EP 940459, hereafter "Bartol" or "459"; GB 778,924, hereafter "924"; or Wolfgang et al. DE 198 26 715 A1, hereafter "Wolfgang" or "715".

The Examiner states:

[a]s aforementioned, the references disclose the use of diethyloctanediol in the production of polymers, suitable for use as coatings and adhesives. Though the references fail to disclose each of applicants' claimed isomers, the position is taken that it would have been obvious to utilize any isomer of diethyloctanediol in the production of polymers, based upon the teachings of the references. The basis for this position resides with the expectation that compounds that have a close structural similarity possess similar properties. This position is bolstered by the fact that the utility and function of the argued compounds within polymerization reactions were well understood; therefore, the skilled artisan

would have had a reasonable expectation of success in substituting one compound for another.

(*Office Action of 12/1/04, page 5, sections 10. and 11., citations omitted.*)

Applicant(s) appreciate the detailed basis of rejection but must respectfully disagree.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143.

This standard is not met with any of the above individually cited references.

As indicated in Applicants' amended claim 21, Applicants are claiming a specific reaction product that has (1) two or more repeating units derived from a positionally isomeric diethyloctanediol monomer and (2) a molecular weight polydispersity Mw/Mn of from 1.1 to 20.

A *prima facie* case of obviousness based on structure exists if the prior art suggests to one of ordinary skill in the art to make the substitution or modification. *In re Taborovsky*, 183 U.S.P.Q. 50 (C.C.P.A. 1974). No such suggestion is provided in the cited references.

In this case, it is respectfully submitted that two of the cited prior art references appear to focus only on specific molecules, i.e., 3,6-diethyl-1,8-octanediol in GB '924 and 2,4-diethyloctane-1,5-diol in DE '715. Given that those of skill in the art recognize that different structures may have differing reactivities and rates of reaction, it is not obvious to treat all positional isomers equivalently as monomers used to obtain repeating units in a reaction product. Accordingly, it is respectfully that the individually cited references fail to provide a *prima facie* case of structural obviousness with respect to the claimed invention of amended claim 21.

In addition, as noted above in Section 5, hereby incorporated by reference, the '715 reference fails to disclose Applicants' requirement of a reaction product comprising

two or more repeating units. No additional references have been cited by the PTO to correct this deficiency with regards to the '715 reference. To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (C.C.P.A. 1974); MPEP 1243.03. Nor does the '715 reference provide any motivation to make a reaction product having at least two monomer units derived from the specifically required monomer. Rather, the teachings of the '715 reference appear to be limited to one residue per molecule.

It is also noted that none of the individually cited references provide any motivation to require Applicants' specific reaction product having a particular polydispersity. The prior art must provide one of ordinary skill in the art the motivation to make the proposed molecular modifications needed to arrive at the claimed compound. *In re Lalu*, 223 U.S.P.Q. 1257 (Fed. Cir. 1984).

In the absence of any motivation to do what Applicants have done, it is respectfully submitted that each of the individually cited references fails to provide a prima facie case of obviousness. Reconsideration and removal of the rejections is respectfully requested.

Reconsideration and removal of each individually applied rejection is respectfully requested in as much as each reference fails to suggest the modifications necessary to obtain the invention of Applicant's independent claim 21, i.e., a particular polydispersity and at least monomer units derived from the particularly required monomer. Similarly, reconsideration and removal of the rejection is also requested as to dependent claims 23, 25, and 26-37, in as much as these dependent claims incorporate the limitations of amended independent claim 21.